

CLAIMS

1. An adjustable drill guide assembly for forming a transverse bore through a bone tunnel of a bone, comprising:

a guide frame including an arm portion and a base portion that extends transversely to the arm portion;

a rod member for connection to the base portion, the rod member extending transversely to the base portion and parallel to the arm portion when connected to the base portion; and further having an elongated stem portion for extending into the bone tunnel of the bone; and

a guide member configured for connection to the arm portion, the guide member including a channel extending therethrough at an angle normal to a longitudinal axis of the arm portion when the guide member is connected to the arm portion;

wherein the guide member is configured to be in moveable and lockable disposition along a length of the arm portion.

2. The assembly of claim 1, wherein the arm portion includes indicia representing the relative height of the channel with respect to the bone tunnel when the elongated stem portion is inserted inside the bone tunnel.

3. The assembly of claim 1, wherein the channel is configured to receive a trocar sleeve assembly comprising a trocar having a pointed proximal end, a distal end, an elongated body extending therebetween, and a sleeve disposed over the elongated body of the trocar, the channel further allowing moveable displacement of the trocar sleeve assembly through the guide member.

4. The assembly of claim 3, wherein the rod member further includes an enlarged head portion at a free end, the enlarged head portion having an aperture for passage of the trocar sleeve assembly therethrough.

5. The assembly of claim 4, wherein the guide member includes two channels, and the assembly includes two trocar sleeve assemblies for placement of a trocar sleeve assembly in each channel, the aperture being sized to allow passage of two trocar sleeve assemblies therethrough.
6. The assembly of claim 1, wherein the rod member is a cannulated rod.
7. The assembly of claim 3, wherein the trocar is removable from the sleeve.
8. The assembly of claim 1, wherein the guide member is configured to be slidably disposed along the length of the arm portion.
9. The assembly of claim 8, wherein the guide member further includes a locking mechanism for locking the guide member along the length of the arm portion.
10. The assembly of claim 9, wherein the locking mechanism comprises a set screw.
11. A method for fixing a tissue graft within a bone tunnel in a femoral bone, comprising the steps of:
 - preparing a bone tunnel in the bone for insertion of a tissue graft;
 - providing an adjustable drill guide assembly including a guide frame having an arm portion and a base portion that extends transversely to the arm portion, a rod member for connection to the base portion, the rod member extending transversely to the base portion and parallel to the arm portion when connected to the base portion, and further having an elongated stem portion for extending into the bone tunnel of the bone; and a guide member configured for connection to the arm portion, the guide member including a channel extending therethrough at an angle normal to a longitudinal axis of the arm portion when the guide member is connected to the arm portion, wherein the guide member is configured to be in moveable and lockable disposition along a length of the arm portion;
 - forming a bore transverse to the bone tunnel;
 - placing the tissue graft inside the bone tunnel; and

securing the tissue graft within the bone tunnel at the location of the bore.

12. The method of claim 11, wherein the step of forming a bore comprises the steps of placing the elongated stem portion into the bone tunnel, locking the guide member onto the arm portion, inserting a drill bit through the bore of the guide member, and drilling the hole so that the drill bit extends transversely through the bone tunnel.
13. The method of claim 12, further including the step of adjusting the guide member along the length of the arm portion, locking the guide member at another position on the arm portion, and drilling another bore transverse to the bone tunnel.
14. The method of claim 11, wherein the bore extends transversely through the bone tunnel at a distance between about 3 to 5 mm from the bone tunnel entrance.
15. The method of claim 11, wherein the bore extends transversely through the bone tunnel at a location near the bone tunnel exit.
16. The method of claim 11, wherein the step of securing the tissue graft comprises placing a cross pin through the bore to compress the tissue graft within the bone tunnel.
17. The method of claim 11, including the step of further securing the tissue graft to bone at a point near the bone tunnel exit.
18. The method of claim 17, wherein the tissue graft is further secured using a graft attachment device that is attached to the tissue graft.
19. The method of claim 18, wherein the graft attachment device anchors the tissue graft to a portion of the bone outside of the bone tunnel.